

## ABSTRACT

A code division multiple access base station is used in receiving a plurality of data signals over a shared spectrum. Each received data signal experiences a similar channel response. A combined signal of the received data signals is received over a shared spectrum. The combined signal is sampled at a multiple of the chip rate. A channel response is estimated. A first element of a spread data vector is determined using the combined signal samples and the estimated channel response. A factor from the first element determination is used to determine remaining elements of the spread data vector. Data of the data signals is estimated using the determined elements of the spread data vector.